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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,296	02/12/2004	Yuji Takagi	MM4652	7399

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EXAMINER

DUNWOODY, AARON M

ART UNIT	PAPER NUMBER
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3679

DATE MAILED: 12/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/779,296

Applicant(s)

TAKAGI ET AL.

Examiner

Aaron M Dunwoody

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

No Information Disclosure Statement submitted.

Drawings

Figures 3 and 4A-5B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to because Figures 2A, 2B and 4A-5B should have a unique figure numbers. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the

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replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities:

The disclosure fails to provide a brief description for Figures 2A, 2B and 4a-5B.

Appropriate correction is required.

Double Patenting

Applicant is advised that should claim 8 be found allowable, claim 13 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear to the Examiner how claims 2 and 5 further define the inner layer as resin, but claim 7 simultaneously defines the inner layer as rubber. Both statements cannot be correct.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 and 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's prior art Figure 3 in view of US patent 6631741, Katayama et al.

In regards to claim 1, Applicant's prior art Figure 3 discloses a metallic tubular hose comprising a hose body having a longitudinal edge at one end thereof and a bellows metallic tube inner layer with the bellows metallic tube inner layer composed of a corrugated bellows portion and a restricted portion, a jacket composed of a plurality of layers surrounding the inner layer, a rigid insert pipe extending into the hose body and a metallic sleeve engaging the hose body along the longitudinal edge for compressing the

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jacket against the rigid insert pipe wherein the plurality of layers in the jacket includes an inner layer adjacent to the restricted portion of the bellows metallic tube inner layer. Applicant's prior art Figure 3 does not disclose the bellows metallic tube inner layer composed of a resin composition possessing a tensile modulus above 300MPa for a resin material composition. Katayama et al teaches a bellows metallic tube inner layer (A) composed of a resin composition (B) possessing a tensile modulus above 300MPa for a resin material composition to reinforce the metal layer against fatigue failure (col. 2, lines 16-18). As Katayama et al relates to a metal composite corrugated hose, it would have been obvious to one having ordinary skill in the art at the time the invention was made to fabricate a bellows metallic tube inner layer composed of a resin composition possessing a tensile modulus above 300MPa for a resin material composition to reinforce the metal layer against fatigue failure, as taught by Katayama et al.

In regards to claim 2, Katayama et al further disclose the tensile modulus of the resin composition being between 1000MPa and 6000MPa.

In regards to claim 3, Applicant's prior art Figure 3 discloses the restricted portion being commensurate in length with the longitudinal edge and being a linear straight portion.

In regards to claim 4, Applicant's prior art Figure 3 discloses the jacket further including a reinforcing layer laminated over the inner layer and an outer layer.

In regards to claim 5, Katayama et al further disclose the inner layer in the jacket having a thickness of between 0.05mm and 0.5mm.

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In regards to claim 8, Katayama et al further disclose the inner layer in the jacket being composed of a resin material selected from the group consisting of : polyamide, denatured polyamide, PE, PP, PET, PBT, PBN, PVDF, ETFE, PPS, ABS, EVA and mixtures thereof.

In regards to claim 9, Katayama et al further disclose the denatured polyamide being a mixture of polyamide and denatured polyolefin containing a carboxylic group.

In regards to claim 10, Katayama et al further disclose the polyamide being selected from the group consisting of polyamide 6, polyamide 11, polyamide 12, polyamide 46, polyamide 6-6, polyamide 6-10, polyamide 6-12, polyamide MXD-66 or copolymers of two or more of the polyamides in the group.

In regards to claim 11, Katayama et al further disclose the mixture being in a proportional range by weight between polyamide and denatured polyolefin of 90/10 - 50/50.

In regards to claim 12, Katayama et al further disclose the proportional range lies between 65/35 - 55/45.

In regards to claim 13, Katayama et al further disclose the inner layer in the jacket being composed of a resin material selected from the group consisting of : polyamide, denatured polyamide, PE, PP, PET, PBT, PBN, PVDF, ETFE, PPS, ABS, EVA and mixtures thereof.

Claims 1 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's prior art Figure 3 in view of US patent 5349988, Walsh et al.

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In regards to claim 1, Applicant's prior art Figure 3 discloses a metallic tubular hose comprising a hose body having a longitudinal edge at one end thereof and a bellows metallic tube inner layer with the bellows metallic tube inner layer composed of a corrugated bellows portion and a restricted portion, a jacket composed of a plurality of layers surrounding the inner layer, a rigid insert pipe extending into the hose body and a metallic sleeve engaging the hose body along the longitudinal edge for compressing the jacket against the rigid insert pipe wherein the plurality of layers in the jacket includes an inner layer adjacent to the restricted portion of the bellows metallic tube inner layer. Applicant's prior art Figure 3 does not disclose the bellows metallic tube inner layer composed of a resin composition possessing a tensile modulus above 300MPa for a resin material composition. Walsh et al teaches a bellows tube inner layer (12) composed of a hard rubber (16) possessing a tensile modulus between 4Mpa and 8Mpa for a composition of rubber to have excellent characteristics with respect to resisting moisture and moisture vapor (col. 4, lines 39-44). As Walsh et al relate to a composite corrugated hose, it would have been obvious to one having ordinary skill in the art at the time the invention was made to fabricate a bellows tube inner layer composed of a hard rubber possessing a tensile modulus between 4Mpa and 8Mpa for a composition of rubber to have excellent characteristics with respect to resisting moisture and moisture vapor, as taught by Walsh et al.

In regards to claim 6, Walsh further discloses the inner layer in the jacket is composed of a rubber material selected from the group consisting of silicone rubber,

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chloroprene rubber, chlorosulfonated polyethylene, butyl rubber, halogenated butyl rubber, acrylic rubber, EPM, EPDM, nitrile rubber, and mixtures thereof.

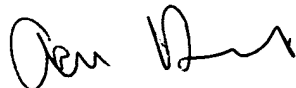
Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure because it illustrates the inventive concepts of the invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron M Dunwoody whose telephone number is 703-306-3436. The examiner can normally be reached on 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P Stodola can be reached on 703-306-5771. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Aaron M Dunwoody
Examiner
Art Unit 3679

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